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PATENT APPLICATION
Mo-4188
LeA 29,111

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION OF)
ROLF WIEDERMANN ET AL) GROUP NO.: 1207
)
SERIAL NUMBER: 08/362,547) EXAMINER: J. COONEY
)
FILED: JANUARY 3, 1995)
)
TITLE: A PROCESS FOR THE PRO-)
DUCTION OF RIGID FOAMS)
CONTAINING URETHANE)
GROUPS AND PREDOMIN-)
ANTLY ISOCYANURATE)
GROUPS)

REPLY BRIEF

Assistant Commissioner for Patents

Washington, D.C. 20231

Sir:

This Reply Brief is submitted to rebut certain arguments raised by the Examiner for the first time in the Examiner's Answer dated February 6, 1997.

Appellants gratefully acknowledge the withdrawal of the rejection of the claims under 35 U.S.C. 103 over the Volkert et al reference (U.S. Patent 5,300,534) and the Volkert et al reference (U.S. Patent 5,205,956).

The Examiner states for the first time in his Answer at page 5, lines 19-20, that "appellants' have not demonstrated that the achievement of the recited effects are attributed to the increases in NCO indices to the levels recited in the claims."

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231, on 3/3/97

N. Denise Brown, Reg. No. 36,097

Name of applicant, assignee or
Registered Representative

March 3, 1997

Date

First of all, Appellants wish to clarify that the achievement of the recited effects in the working examples of the present application are not contributable to increases in NCO indices alone as suggested by the above statement. It is also necessary to use one or more compounds containing at least two isocyanate-reactive hydrogen atoms, having molecular weights of from 400 to 10,000 and containing branched chains (see P1, L19-22; P2, L18; P4, L21-24; and Claim 9). The present invention also requires blowing agents consisting essentially of C₁ to C₆ hydrocarbons.

As set forth by Appellants in their Brief (see page 3, second full paragraph), and the present application (see P1, L5-18), hydrocarbon blowing agents are typically used to overcome surface brittleness associated with water blown foams which adversely affect the adhesion between the surface of the foam and a surface skin. Surface brittleness is overcome by the use of hydrocarbons as the sole blowing agents. However, it is necessary to increase the quantity of flameproofing agents to maintain flame retardance when hydrocarbons are used alone. This increase in the quantity of flameproofing agents causes hydrocarbon blown foams to be dimensionally unstable and exhibit shrinkage and/or contractions.

This is also supported by comparison Examples 1 and 2 in Table 1 on P11 of the present application. Although both of these comparison examples use a hydrocarbon blowing agent and are conducted at NCO indices within the presently required range of 200-600, both formulations result in dimensionally unstable foams (i.e. they both exhibit shrinkage). This is clearly due to the fact that Polyol A did not contain branched chains as required by the presently claimed invention. Thus, the combination of higher NCO indices (i.e. 200-600) with hydrocarbon blowing agents do not solve this problem!

It is evident to the skilled artisan upon reviewing Examples 1-4 in Table 2 (P12) that dimensionally stable foams can be formed from a polyol component which contains branched chains, hydrocarbons as blowing agents, and higher NCO indices (i.e. 200-600). Appellants respectfully submit that there is no information set forth in the '933 patent which would lead one skilled in the art to expect that this particular combination would produce dimensionally stable foams.

Furthermore, it is necessary to remember that the broad disclosure of various components within a reference can not properly be interpreted as suggesting that all the obstacles and/or problems associated with various combinations of components have been overcome and/or resolved.

The Examiner also stated for the first time in his Answer at page 6, lines 2-3 that "appellants' limited showing of stability and flame test do not identify results which are commensurate in scope with the full range of materials and respective amounts set forth by the claims." Appellants respectfully disagree.

It appears to Appellants that the Examiner is concerned about the scope of NCO indices in the present claims. Appellants respectfully submit that the presently claimed range of NCO indices is fully supported by the present application. Table 2 (see P12) of the present application contains 5 examples. Examples 1-4 are representative of the present invention and Example 5 is comparative.

The NCO index of Example 4 is 200, which is the lower limit of the range in the present claims. At this lower limit, the presently claimed invention results in a foam that exhibits almost no shrinkage. Example 5 meets all the requirements of the present claims with the exception of the NCO index being too low (142). This example results in a foam which exhibits shrinkage, and thus, is not dimensionally stable. Example 2 of Table 2 was performed at an NCO index of 392, which was the highest NCO index. It also resulted in a foam which did not exhibit shrinkage.

Although an NCO index of 392 (as in Example 2 of Table 2) is not the upper end of the presently claimed range, it is Appellants' position that there is no need to demonstrate that dimensionally stable foams are also produced at the upper end of the NCO index range. There is no doubt that all the examples of the Volkert reference use NCO indices of about 110, which is considerably lower than the presently claimed range of 200 to 600. It is also considerably lower than the NCO index of 142 in Example 5 of Table 2 (P12) which Appellants clearly demonstrated does not produce a dimensionally stable foam. Example 5, however, used a polyol component which contained branching, and a hydrocarbon blowing agent.

Appellants respectfully submit that the NCO index of Example 5 is closer to the presently claimed range than the prior art presently being relied upon in this

rejection. At this point, no art has been cited which contains examples at NCO indices above the upper limit of 600 required by the present claims. It is Appellants' position that requiring a showing above this upper limit would require Appellants to create new prior art. However, as set forth in *In re Geiger*, 2 USPQ2d 1276, 1279 (Fed. Cir. 1987) "It is not required that the claimed invention be compared with subject matter that does not exist in the prior art. The applicant is not required to create prior art, nor to prove that his invention would have been obvious if the prior art were different than it actually was." Accordingly, it is not necessary for Appellants to make a showing at the upper limit of the presently claimed range and/or above that range as suggested by the Examiner.

For these reasons and those discussed at length in their Appeal Brief, Appellants maintain their position that the Examiner's rejections are improper. Appellants respectfully request that these rejections be reversed and that Claims 3-9 be allowed.

Respectfully submitted,

ROLF WIEDERMANN
STEPHAN WENDEL
WOLFGANG SCHMITZ

By 
N. Denise Brown
Agent for Appellants
Reg. No. 36,097

Bayer Corporation
100 Bayer Road
Pittsburgh, Pennsylvania 15205-9741
(412) 777-2390
FACSIMILE PHONE NUMBER:
(412) 777-5449
s:\kgb\db1443.rb



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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Paper No. 16

Application Number: 08/362,547

Filing Date: January 3, 1997

Appellant(s): Weidermann et al.

N. Denise Brown

For Appellant

Supplemental
EXAMINER'S ANSWER

This is in response to appellant's Reply Brief on appeal filed March 5, 1997.

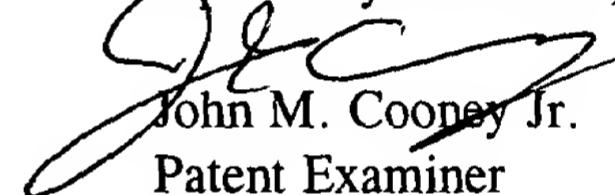
Appellants' Reply Brief states that the recited effects of their invention are not solely attributable to their NCO indices alone. Such is noted, but unexpectedness attributable to the NCO indices is the required showing held to be necessary to overcome the instant rejection of the claimed invention. Appellants' brief further argues that appellants' showing of results is fully supportive of the NCO index value ranges set forth in the claims. Appellants' comparison of their own invention (Example 3) with their own provided comparative sample (Example 5) does render a comparison which has the NCO index as the only variable. However, examiner maintains that this showing is limited in its scope and is not commensurate in scope with the scope of the NCO index value ranges set forth in the claims. First, no comparison is made at the upper range of appellants' index values. Second, no comparison is made with the teachings of the cited Volkert patent. And, third, only one point within appellants' claimed NCO index value range is compared with one point outside of their NCO index value range. For these three reasons it is maintained that appellants' showing of unexpected results are not supportive of or commensurate in scope with the range of NCO index values of the appealed claims.

It is further noted in regard to the specific comparison set forth by appellants' examples 3 and 5, in considering a showing of allegedly unexpected results, obvious and expected properties must be weighed against unobvious and unexpected properties in any determination of patentability such that when a reference clearly provides motivation to make a given change, the burden is shifted to applicant to demonstrate that any unobvious and unexpected results are

not merely secondary in nature. *In re Nolan* 193 USPQ 641 CCPA 1977. In the instant case appellants' set forth a subjectively determined shrinkage observation as the critical feature of unexpectedness while many other properties of the compared products are equal or negligibly different, and it is not evident from the record that the differences in shrinkage properties are not merely secondary in nature.

For the above reasons and those previously set forth in the Examiner's Answer, it is believed that the rejections should be sustained.

Respectfully submitted,



John M. Cooney Jr.
Patent Examiner
Group 1200

Bayer Corporation
100 Bayer Road
Pittsburg, Pennsylvania
15205-9741